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Office of Advocacy
U.S. Small Business Administration

E-commerce

Small Businesses Venture Online

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The report examines the available data on small businesses' use of electronic commerce. E-commerce applications include e-tailing in virtual store fronts and electronic data interchange.

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Figures and Tables

- E-mail service is the number one use of e-commerce, while education is the least-used application.
- Online retail marketing is experiencing about 200 percent annual growth, and traffic online has been doubling every 100 days.
- Only 5 percent of consumers who visit the World Wide Web become customers.
- Estimates of e-commerce revenue vary widely. In 1997, it is estimated that small businesses earned $3.5 billion in e-commerce sales. Projections for the beginning of the next decade range from $25 billion to over $300 billion.
- The Internet Tax Freedom Act of 1998 has placed a three-year ban on both state and local government taxes on the Internet.
- By 2000, it is estimated that almost one-third of all business-to-business transactions will be performed via e-commerce.

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businesses. The number of U.S. households that have a home-based business currently exceeds 12 percent.

More than 13 million households spent an estimated $22 billion on technology in 1998. Home-based businesses represent about 18 percent of all homes with personal computers (PCs) and 22 percent of home businesses that have made an online purchase. By 2003, home-based-business technology spending is projected to be $30 billion, and 71 percent of those businesses will be conducted online. (Forrester Research, 1998). According to the National Federation of Independent Business (NFIB) Education Foundation, the number of small employers that use computer equipment in their operations exceeds 4.5 million.

Information technology has opened new avenues for businesses and individuals to get easy access to information. It has made it possible and easier for businesses and individuals to conduct transactions with the click of a mouse. As a result, e-commerce is becoming a vital tool in the economy, and small businesses are using it.

This report identifies a number of issues in the move to electronic commerce by small businesses: the cost of establishing and maintaining a Web site, the security of data collected online, potential tax liability, and the millennium bug (Y2K).

Some of the major reasons why small enterprises use a Web site according to the NSBU study include: reaching new and potential customers (78 percent); selling goods and services (65 percent); providing information more efficiently (62 percent); reaching new prospective employees (13 percent); and expanding globally (17 percent).

A study by IBM and the U.S. Chamber of Commerce (which surveyed 1,010 firms with less than 100 employees) discovered that 30 percent of small businesses surveyed use the Internet to promote their services while one-half use it to seek information about potential customers. Sixty-three percent use it to answer specific questions and 85 percent use it for e-mail purposes. The survey also revealed that one-quarter of small businesses report being conversant with "e-commerce" while some are already practicing it. Thirty-seven percent of Internet users use it to place orders while 29 percent receive orders with it; 9 percent use it to pay suppliers (Small Business and Technology, 1998). (See Table 1).

Table 1

Small and medium sized uses of the Internet	%	**Primary uses by ZDNet**	%	**IBM and the U.S. Chamber of Commerce**	%
Business e-mail	51	E-mail	18	E-mail	85
Research	47	Research	35.4	Provide answers	63
Personal e-mail	35	Intranet purposes	13.3	Seek customer info.	49
Web-site	23	Homepage	19.3	Promotion/Advertising	30
Online transaction	22	E-commerce	1.4	Online ordering	37
Online ordering	19	Communication	1.5	Receive orders	29
Employment	4	EDI	4.9	Pay suppliers	9
		Technical support	2		
		Education	1.3		
N = 504		**N=50,931**		**N=1,010**	
Note: Respondents included small and medium-sized businesses. Source: Arthur Andersen's Enterprise Group and National Small Business United, Nov., 1998.		*Note: Study was on businesses with less than 100 employees. Source: ZDNet, Nov., 1998.*		*Note: Study was on businesses with less than 100 employees. Source: IBM and U.S. Chamber of Commerce, June 1998.*	

Additionally, a study by Cahners In-Stat Group shows that about one-quarter (28 percent) of small businesses accept customers' orders via the Web (Goeler, 1998).

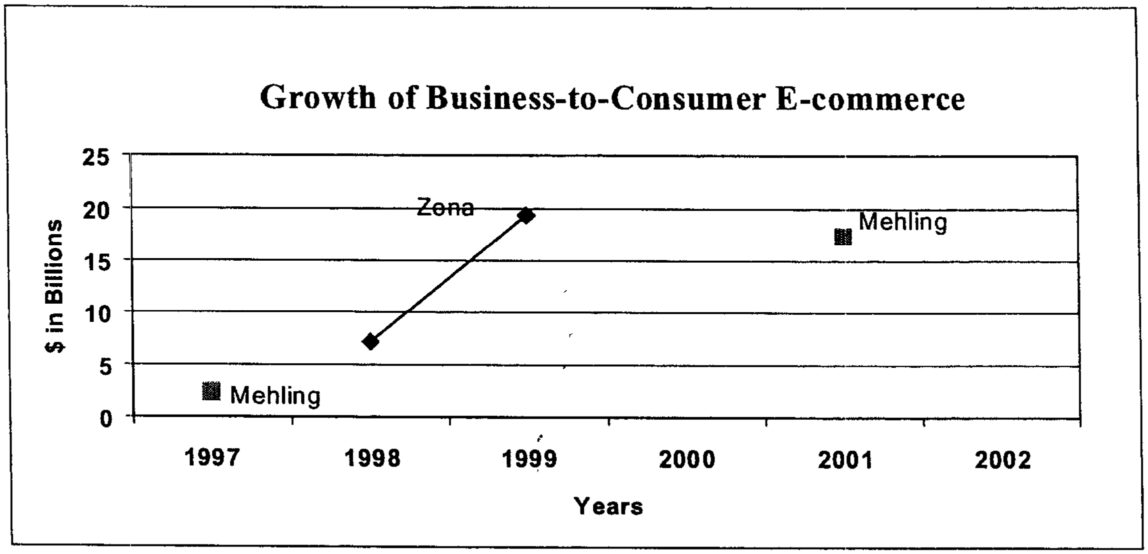
Business-to-Consumer and Business-to-Business E-commerce

Source estimates differ dramatically for Internet sales for both business-to-consumer and business-to-business e-commerce. According to Roberts, analysts estimate Internet retail sales to be a minute fraction of consumer spending – between $1.3 billion and $4 billion out of $2.5 trillion that consumers spent in 1997 (1999). A study by Access Media International (AMI) estimated that small business gained $3.5 billion in e-commerce consumer sales in 1997 and projected that number to exceed $7.5 billion in 1998; this number is expected to reach $25 billion in the year 2000 (1998). See Figure 1. Business-to-consumer online shopping should rise from $2.4 billion in 1997 to $17.4 billion in 2001, according to Mehling (1998). Another report projects the growth rate of business-to-consumer Internet transactions to rise by 37 percent, from $7.17 billion in 1998 to $19.37 billion in 1999 (Zona, 1998).

The largest component of electronic commerce is business-to-business trade (Tax Features, 1998). This could be attributed to its cost saving features. Revenues of U.S. business-to-business e-commerce will grow from $17 billion in 1998 to $327 billion in the year 2002, according to Mehling (1998). Another study projects business-to-business transactions to grow by 46.5 percent, from $24.1 billion in 1998, to $51.9 billion in 1999 (Zona, 1998). Olbeter projects that by the year 2000, almost one-third of all business-to-business transactions will be performed via e-commerce (1998).

Figures 2 and 3 show the projected growth of e-commerce between business-to-business and business-to-consumer. It is important to note that the studies in figures 2 and 3 do not reveal what fraction of sales represents e-commerce by small businesses.

Figure 3



Business-to-Consumer Projections
Source: Chart prepared by the Office of Advocacy based upon Zona Research Inc. (1998), and Mehling (1998).

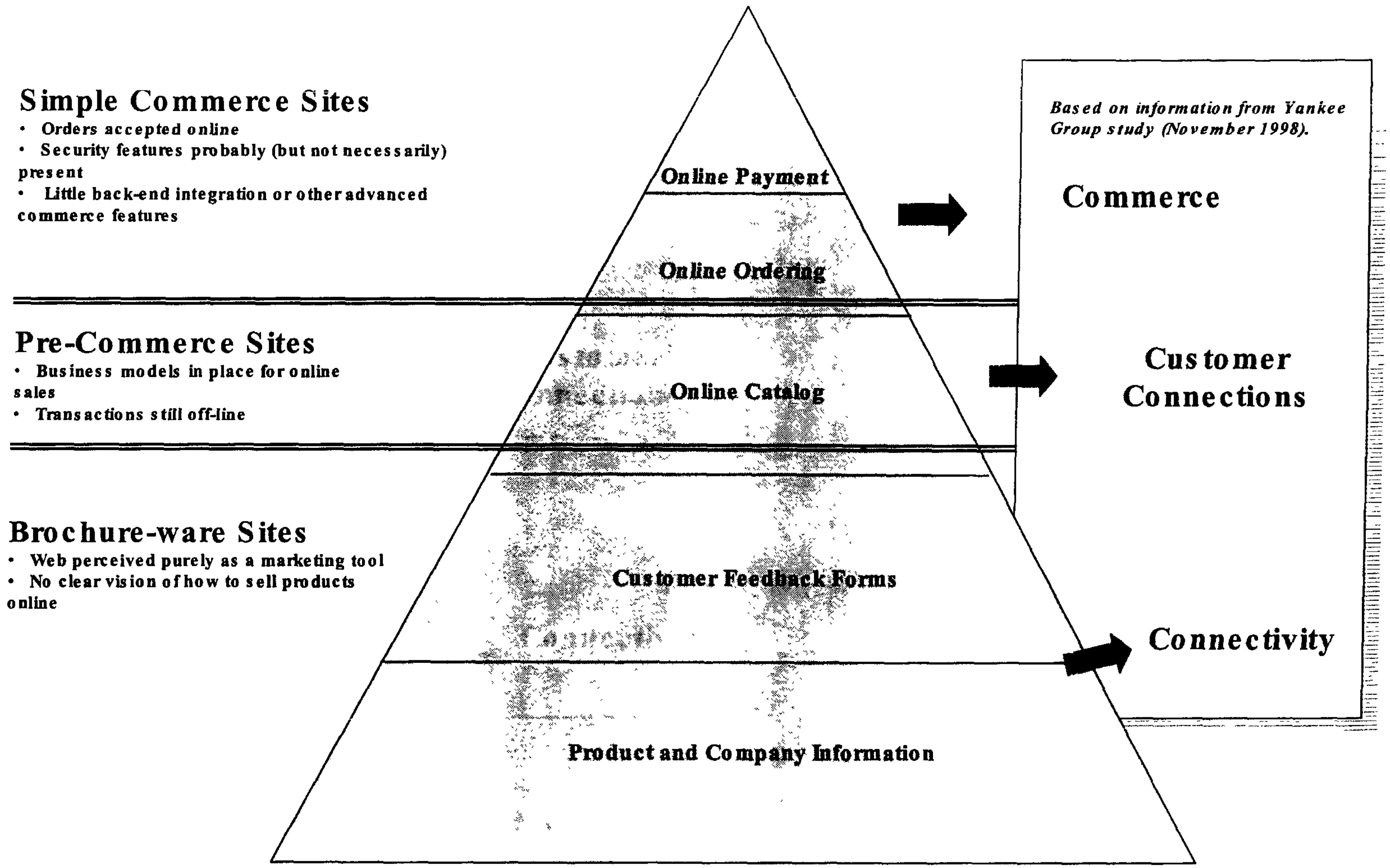
Types of Industries

The percentage of small companies or firms that have access to the Internet has increased dramatically in the last two years, from 19.7 percent in 1996 to 41.2 percent in 1998, according to International Data Corporation (IDC, 1998). IDC found that the use of the Internet is more common among the professional services sector (e.g. law firms, insurance agencies, real estate agencies, accounting firms). Based on the study, manufacturing companies log onto the Internet most frequently and for the broadest range of applications. On the other hand, retail and health care industries lag when it comes to Internet usage.

Phases and Purchasing Behavior

The Yankee Group has identified three phases of Internet involvement which small (2-99 employees) and medium-sized (100-499 employees) enterprises go through over time as their Internet commitment strengthens: connectivity, customer connections and commerce (1998). "More than two-thirds of the companies we surveyed have yet to even move into the customer connection phase," according to Chris Gwynn, senior

Figure 4. Small Business: Laying the Foundations for E-Commerce

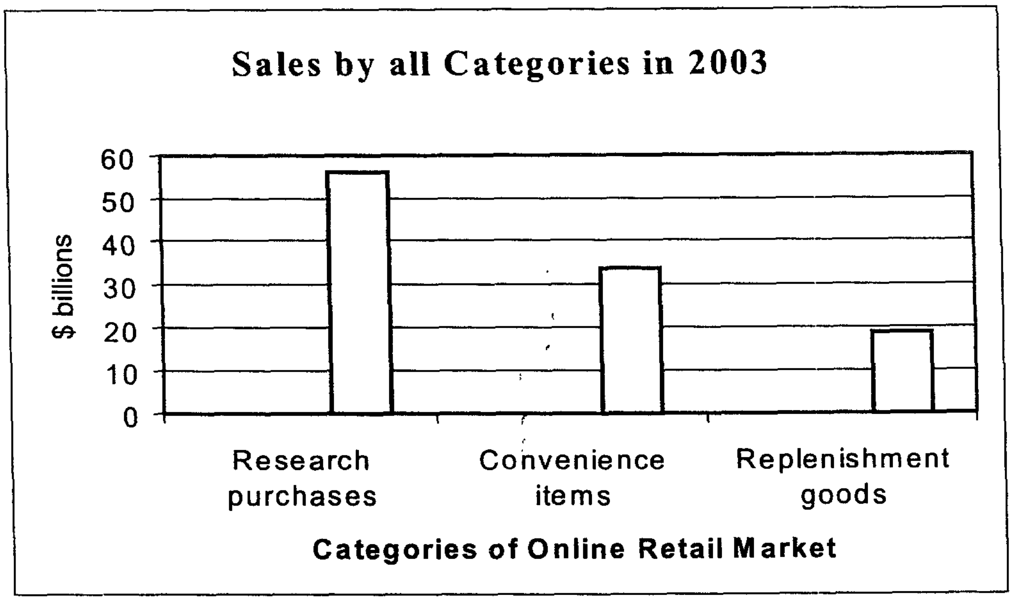


Gaining experience and evolving business models and infrastructures along the way, small businesses surveyed are implementing e-commerce features on their Web sites in baby steps.

Illustration adapted from Kate Von Goeler, "Internet Commerce by Degrees." ©1998, Cahners In-Stat Group. Reproduced with permission.

Figure 5

Projections of Sales by all Categories



Source: Office of Advocacy, based upon Forrester Research Inc., 1998.

Internet service providers). The moratorium is in effect from October 1, 1998 through October 21, 2001.

- No discriminatory treatment of Internet based sales: Consumers and vendors that are involved in commercial transactions over the Internet are protected against any new tax liability.
- Study and report to Congress: A temporary commission is created to study taxation of Internet commerce and to determine within 18 months if Internet commerce should be taxed.
- Support global free trade on the Internet: The administration should require foreign governments to keep the Internet free of taxes and tariffs.

Online entrepreneurs believe that the application of sales taxes would slow the growth of this medium (Simons, 1998). Austan Goolsbee, a University of Chicago economist who analyzed data on the buying decisions of Internet shoppers, found that the number of online buyers would decline by 25 percent, and the amount of spending would decline by more than 30 percent if existing sales taxes were applied to the Internet (Simons, 1998).

Services are a growing fraction of consumer spending while sales taxes apply primarily to tangible products at the state and local levels in the U.S. (Tax Features, 1998). The growth of e-commerce will increase the fraction of commerce that escapes sales and use taxes as more consumers go online to purchase services and intangible goods as a tax avoidance scheme (Tax Features, 1998). Some states that do not have an income tax rely on sales tax for their revenues (e.g., Washington and Nevada) (Simons, 1998). Among the uncertainties engendered by the ITFA is the impact on these states because retail e-commerce is not taxable.

The businesses in the Cahners In-Stat study were high-tech, computer-oriented companies, with in-house technical skills. Yet they were still hindered by the complexity of installing commerce sites. Logically, less technology-savy firms would have greater concerns about e-commerce and online sales (Goeler, 1998).

In a recent survey of 500 small business owners and managers, E-valuations research found that most respondents believe selling on the Web will be important to their future. One-half indicated that the cost of building and maintaining a site is the biggest barrier to selling online. Other barriers were: lack of technical expertise (45 percent); the amount of site security needed (39 percent), and the cost of building a transactions-based site (36 percent) (Mehling, 1998).

The minimum initial investment in an e-commerce site is about $10,000, according to Erica Rugullies, an e-commerce analyst at research firm Giga Information Group. Small businesses should expect to spend 20 percent of the launch cost for annual maintenance and support (Mehling, 1998). Another barrier affecting the growth of e-commerce among small businesses, according to a study by Pricewaterhouse Coopers, is the lack of qualified workers (1998). Two-thirds of top technology executives cited this as a barrier to achieving their revenue goals over the next 12 months. According to the same study, 76 percent of small high-tech businesses see worker qualifications as a possible pitfall, versus 56 percent of large companies.

Factors Affecting E-commerce

A study by Visa indicates that gender and age have a great impact on how small business owners utilize technology, whether they have computers, fax machines or use the Internet (1998). The report is based on a survey of 350 small business owners. Other factors, according to the report, that can play a role in the usage of technology are the age of the business and its industry. Visa developed four classifications for technology views among owners: 1) express lane, 2) slower traffic –stay right, 3) proceed with caution, and 4) no access.

The "express lane" represents about 34 percent of business owners who are eager, adaptive to new technologies, and younger. They typically are 30 to 49 years old and male, managing larger organizations in the business and financial services industries and generating more than $250,000 in annual revenues. Their counterparts are female

As fraud grows exponentially, fraudulent behavior can be a disincentive for both consumers and businesses to embrace e-commerce.

Some of the advantages and challenges highlighted in various studies include:

Advantages

1. Ability of small firms to compete with other companies both locally and nationally (promotional tool);
2. Creates the possibility and opportunity for more diverse people to start a business;
3. Convenient and easy way of doing business transactions (not restricted to certain hours of operation, virtually open 24 hours a day, seven days a week);
4. An inexpensive way (compared to the cost of paper, printing and postage prior to the Internet) for small business to compete with larger companies and for U.S. firms to make American products available in other countries; and
5. Small businesses that utilize the Internet have higher revenues, averaging $3.79 million compared to $2.72 million overall (IDC research).

Challenges

1. Managing upgrades (anticipating business needs/application);
2. Assuring security for a Web site and the back-in integration with existing company system;
3. Avoiding being a victim of fraudulent activities online;
4. Costs required to maintain the site;
5. Finding qualified consultants;
6. Finding and retraining qualified employees;
7. No market for old computers; and
8. the Y2K issue.

The Millennium Bug (Y2K)

The millennium bug (Y2K) also has the potential of disrupting the growth of e-commerce where payments, orders, and accounts may be interrupted. Simply put, the Y2K problem is the inability of computer programs at the beginning of the year 2000 to

Digital Cash and the Future

Analysts predict that the number of devices used to access the Web will increase significantly, and spending on such devices would increase from $78.1 million in 1997 to $515 million in 2002 (Hu, 1998). With the number of devices increasing, more entrepreneurs will gain access to the Internet at a lower cost. If basic concerns like Y2K and security issues are not addressed, the growth of e-commerce may be stalled. Securing a viable digital cash system is a key element of online security.

In studies by Cahners In-Stat, ZdNet, Giga Information Group, and E-valuations, respondents mentioned security concerns as one major hindrance to e-commerce progress. One would assume that if a more secure way of doing business on the Internet is developed, businesses and consumers will not feel so vulnerable about personal information. This concern could be alleviated if electronic money or digital cash is put into place. According to Matonis (1995), a private digital cash system would consist of ten key elements:

Security: Transaction protocol must ensure that high-level security is maintained through sophisticated encoding techniques (i.e., an individual should be able to pass digital cash to another without either of them, or others, being able to alter or reproduce the electronic token).

Anonymity: Anonymity assures the privacy of a transaction on various levels. Beyond encryption, this optional feature to prevent tracing the exchange of digital cash promises to be one of the major points of competition between providers (both individuals should have the option to remain completely anonymous with regard to the payment).

Portability: Security and usage of digital cash is not dependent on any physical location. The money can be transferred through computer networks and off the computer network into other storage devices. Both individuals and businesses should be able to walk away with their digital cash and transport it for use within alternative delivery systems, including non-computer network channels. Importantly, digital wealth should not be restricted to a unique, proprietary computer network.

Two-way: Digital money can be transferred to other users. It is essential that peer-to-peer payments are possible without either party required to attain registered merchant status with today's card-based systems.

Conclusion

E-commerce has created an evolutionary change in catalog retailing and improved business methods of communication and information. These quality and productivity increases are what drive the U.S. economy forward. Consumers are on the Internet because of the price and choice that is available to them there. The use of e-commerce expands the small business's and consumer's venues for exchanging information, goods, and services. While barriers, such as security, Y2K bug, and costs are associated with the Internet use in e-commerce, solutions such as digital cash likely will expand the market.

It is important to understand how e-commerce affects small businesses and how they are utilizing it, because small businesses generate most net new jobs in the U.S. More research is needed in this area to fully understand the experiences of small businesses with e-commerce and to find solutions for the future of e-commerce for the small business community and its customers.

The number of small businesses that use computer equipment in their operations will increase significantly in the near future. Based on the studies available, the Internet is a fast and easy medium of communication among businesses and customers. With Internet retail sales below 1 percent of total retail sales, more companies are likely to experience e-commerce in the future. Businesses that use the Internet to buy, sell, distribute and maintain products and services can realize significant cost savings and attract more customers to their business, thereby potentially increasing sales. However, e-commerce will not replace the traditional way of shopping and doing business; rather it will provide another option to the merchant and consumer.

Although the Internet Tax Freedom Act of 1998 may encourage new entrepreneurs and more buyers online by temporarily banning sales and use taxes, it also tends to discriminate against those who do business the traditional way. As e-commerce continues to grow so does the fraction of sales that escapes sales and use taxes, at least temporarily.

The business-to-consumer trend is slow when compared to business-to-business e-commerce. Until more cost-effective and secure mechanisms are in place, growth in consumer online sales could stall. Demographics have also played a role in the way that e-commerce has been implemented, particularly in the retail sector. The newest

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